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1632

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/744,167DATE: 02/21/2001
TIME: 11:03:09Input Set : A:\ES.txt
Output Set: N:\CRF3\02212001\I744167.raw

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C--> 3 <110> APPLICANT: HSC Research and Development Limited Partnership
5 <120> TITLE OF INVENTION: SARA PROTEINS
7 <130> FILE REFERENCE: 3206-172/PAR
9 <140> CURRENT APPLICATION NUMBER: US/09/744,16710 <141> CURRENT FILING DATE: 1999-07-20
12 <150> PRIOR APPLICATION NUMBER: 2,237,701
13 <151> PRIOR FILING DATE: 1998-07-20
15 <160> NUMBER OF SEQ ID NOS: 8
17 <170> SOFTWARE: PatentIn Ver. 2.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 4839
21 <212> TYPE: DNA
22 <213> ORGANISM: Homo sapiens
24 <400> SEQUENCE: 1

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108 <210> SEQ ID NO: 2

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110 <212> TYPE: PRT
111 <213> ORGANISM: Homo sapiens
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118           20           25           30
120 Lys Cys Gly Asn Leu Ala Cys Leu Pro Asp Glu Lys Asn Val Leu Val
121           35           40           45
123 Val Ala Val Met His Asn Cys Asp Lys Arg Thr Leu Gln Asn Asp Leu
124           50           55           60
126 Gln Asp Cys Asn Asn Tyr Asn Ser Gln Ser Leu Met Asp Ala Phe Ser
127   65           70           75           80
129 Cys Ser Leu Asp Asn Glu Asn Arg Gln Thr Asp Gln Phe Ser Phe Ser
130           85           90           95
132 Ile Asn Glu Ser Thr Glu Lys Asp Met Asn Ser Glu Lys Gln Met Asp
133           100          105          110
135 Pro Leu Asn Arg Pro Lys Thr Glu Gly Arg Ser Val Asn His Leu Cys
136           115          120          125
138 Pro Thr Ser Ser Asp Ser Leu Ala Ser Val Cys Ser Pro Ser Gln Leu
139           130          135          140
141 Lys Asp Asp Gly Ser Ile Gly Arg Asp Pro Ser Met Ser Ala Ile Thr
142 145           150          155          160
144 Ser Leu Thr Val Asp Ser Val Ile Ser Ser Gln Gly Thr Asp Gly Cys
145           165          170          175
147 Pro Ala Val Lys Lys Gln Glu Asn Tyr Ile Pro Asp Glu Asp Leu Thr
148           180          185          190
150 Gly Lys Ile Ser Ser Pro Arg Thr Asp Leu Gly Ser Pro Asn Ser Phe
151           195          200          205
153 Ser His Met Ser Glu Gly Ile Leu Met Lys Lys Glu Pro Ala Glu Glu
154           210          215          220
156 Ser Thr Thr Glu Glu Ser Leu Arg Ser Gly Leu Pro Leu Leu Leu Lys
157 225          230          235          240
159 Pro Asp Met Pro Asn Gly Ser Gly Arg Asn Asn Asp Cys Glu Arg Cys
160           245          250          255
162 Ser Asp Cys Leu Val Pro Asn Glu Val Arg Ala Asp Glu Asn Glu Gly
163           260          265          270
165 Tyr Glu His Glu Glu Thr Leu Gly Thr Thr Glu Phe Leu Asn Met Thr
166           275          280          285
168 Glu His Phe Ser Glu Ser Gln Asp Met Thr Asn Trp Lys Leu Thr Lys
169           290          295          300
171 Leu Asn Glu Met Asn Asp Ser Gln Val Asn Glu Glu Lys Glu Lys Phe
172 305          310          315          320
174 Leu Gln Ile Ser Gln Pro Glu Asp Thr Asn Gly Asp Ser Gly Gly Gln
175           325          330          335
177 Cys Val Gly Leu Ala Asp Ala Gly Leu Asp Leu Lys Gly Thr Cys Ile
178           340          345          350
180 Ser Glu Ser Glu Glu Cys Asp Phe Ser Thr Val Ile Asp Thr Pro Ala

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183 Ala Asn Tyr Leu Ser Asn Gly Cys Asp Ser Tyr Gly Met Gln Asp Pro
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186 Gly Val Ser Phe Val Pro Lys Thr Leu Pro Ser Lys Glu Asp Ser Val
187 385          390          395          400
189 Thr Glu Glu Lys Glu Ile Glu Glu Ser Lys Ser Glu Cys Tyr Ser Asn
190          405          410          415
192 Ile Tyr Glu Gln Arg Gly Asn Glu Ala Thr Glu Gly Ser Gly Leu Leu
193          420          425          430
195 Leu Asn Ser Thr Gly Asp Leu Met Lys Lys Asn Tyr Leu His Asn Phe
196          435          440          445
198 Cys Ser Gln Val Pro Ser Val Leu Gly Gln Ser Ser Pro Lys Val Val
199          450          455          460
201 Ala Ser Leu Pro Ser Ile Ser Val Pro Phe Gly Gly Ala Arg Pro Lys
202 465          470          475          480
204 Gln Pro Ser Asn Leu Lys Leu Gln Ile Pro Lys Pro Leu Ser Asp His
205          485          490          495
207 Leu Gln Asn Asp Phe Pro Ala Asn Ser Gly Asn Asn Thr Lys Asn Lys
208          500          505          510
210 Asn Asp Ile Leu Gly Lys Ala Lys Leu Gly Glu Asn Ser Ala Thr Asn
211          515          520          525
213 Val Cys Ser Pro Ser Leu Gly Asn Ile Ser Asn Val Asp Thr Asn Gly
214          530          535          540
216 Glu His Leu Glu Ser Tyr Glu Ala Glu Ile Ser Thr Arg Pro Cys Leu
217 545          550          555          560
219 Ala Leu Ala Pro Asp Ser Pro Asp Asn Asp Leu Arg Ala Gly Gln Phe
220          565          570          575
222 Gly Ile Ser Ala Arg Lys Pro Phe Thr Thr Leu Gly Glu Val Ala Pro
223          580          585          590
225 Val Trp Val Pro Asp Ser Gln Ala Pro Asn Cys Met Lys Cys Glu Ala
226          595          600          605
228 Arg Phe Thr Phe Thr Lys Arg Arg His His Cys Arg Ala Cys Gly Lys
229          610          615          620
231 Val Phe Cys Ala Ser Cys Cys Ser Leu Lys Cys Lys Leu Leu Tyr Met
232 625          630          635          640
234 Asp Arg Lys Glu Ala Arg Val Cys Val Ile Cys His Ser Val Leu Met
235          645          650          655
237 Asn Ala Gln Ala Trp Glu Asn Met Met Ser Ala Ser Ser Gln Ser Pro
238          660          665          670
240 Asn Pro Asn Asn Pro Ala Glu Tyr Cys Ser Thr Ile Pro Pro Leu Gln
241          675          680          685
243 Gln Ala Gln Ala Ser Gly Ala Leu Ser Ser Pro Pro Pro Thr Val Met
244          690          695          700
246 Val Pro Val Gly Val Leu Lys His Pro Gly Ala Glu Val Ala Gln Pro
247 705          710          715          720
249 Arg Glu Gln Arg Arg Val Trp Phe Ala Asp Gly Ile Leu Pro Asn Gly
250          725          730          735
252 Glu Val Ala Asp Ala Ala Lys Leu Thr Met Asn Gly Thr Ser Ser Ala
253          740          745          750

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259          770          775          780
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262 785          790          795          800
264 Gly Leu Pro Pro Ile Leu Ile Ser Thr Gly Val Lys Gly Asp Tyr Ala
265          805          810          815
267 Val Glu Glu Lys Pro Ser Gln Ile Ser Val Met Gln Gln Leu Glu Asp
268          820          825          830
270 Gly Gly Pro Asp Pro Leu Val Phe Val Leu Asn Ala Asn Leu Leu Ser
271          835          840          845
273 Met Val Lys Ile Val Asn Tyr Val Asn Arg Lys Cys Trp Cys Phe Thr
274          850          855          860
276 Thr Lys Gly Met His Ala Val Gly Gln Ser Glu Ile Val Ile Leu Leu
277 865          870          875          880
279 Gln Cys Leu Pro Asp Glu Lys Cys Leu Pro Lys Asp Ile Phe Asn His
280          885          890          895
282 Phe Val Gln Leu Tyr Arg Asp Ala Leu Ala Gly Asn Val Val Ser Asn
283          900          905          910
285 Leu Gly His Ser Phe Phe Ser Gln Ser Phe Leu Gly Ser Lys Glu His
286          915          920          925
288 Gly Gly Phe Leu Tyr Val Thr Ser Thr Tyr Gln Ser Leu Gln Asp Leu
289          930          935          940
291 Val Leu Pro Thr Pro Pro Tyr Leu Phe Gly Ile Leu Ile Gln Lys Trp
292 945          950          955          960
294 Glu Thr Pro Trp Ala Lys Val Phe Pro Ile Arg Leu Met Leu Arg Leu
295          965          970          975
297 Gly Ala Glu Tyr Arg Leu Tyr Pro Cys Pro Leu Phe Ser Val Arg Phe
298          980          985          990
300 Arg Lys Pro Leu Phe Gly Glu Thr Gly His Thr Ile Met Asn Leu Leu
301          995          1000          1005
303 Ala Asp Phe Arg Asn Tyr Gln Tyr Thr Leu Pro Val Val Gln Gly Leu
304          1010          1015          1020
306 Val Val Asp Met Glu Val Arg Lys Thr Ser Ile Lys Ile Pro Ser Asn
307 1025          1030          1035          1040
309 Arg Tyr Asn Glu Met Met Lys Ala Met Asn Lys Ser Asn Glu His Val
310          1045          1050          1055
312 Leu Ala Gly Gly Ala Cys Phe Asn Glu Lys Ala Asp Ser His Leu Val
313          1060          1065          1070
315 Cys Val Gln Asn Asp Asp Gly Asn Tyr Gln Thr Gln Ala Ile Ser Ile
316          1075          1080          1085
318 His Asn Gln Pro Arg Lys Val Thr Gly Ala Ser Phe Phe Val Phe Ser
319          1090          1095          1100
321 Gly Ala Leu Lys Ser Ser Ser Gly Tyr Leu Ala Lys Ser Ser Ile Val
322 1105          1110          1115          1120
324 Glu Asp Gly Val Met Val Gln Ile Thr Ala Glu Asn Met Asp Ser Leu
325          1125          1130          1135
327 Arg Gln Ala Leu Arg Glu Met Lys Asp Phe Thr Ile Thr Cys Gly Lys

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